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M. cat

[Turquoise]

Mount Chalchuitl.

DESCRIPTION

OF

PROPERTY AND MINES

OF THE

Turquoise Gold & Silver
Mining Company,

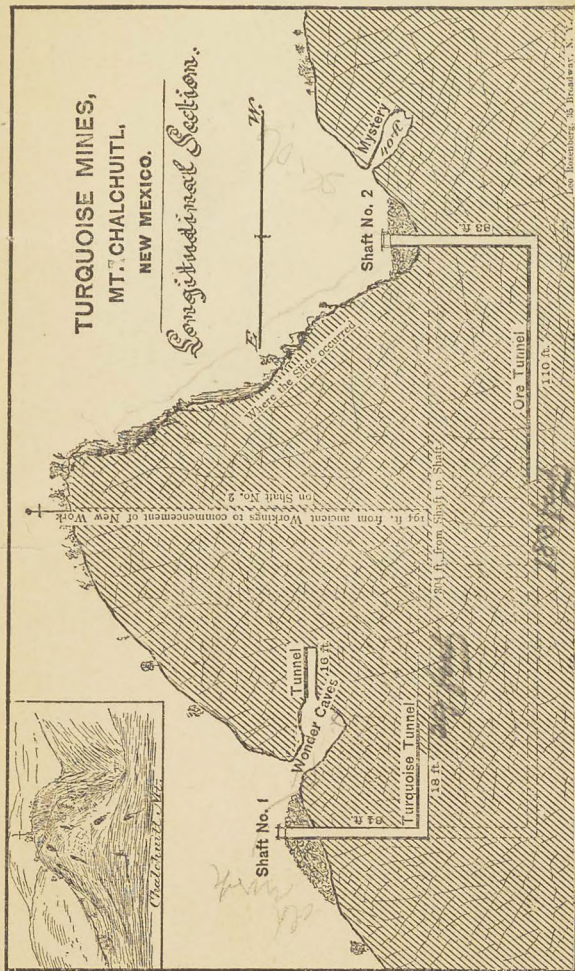
LOS CERRILLOS,

Santa Fe County, New Mexico.

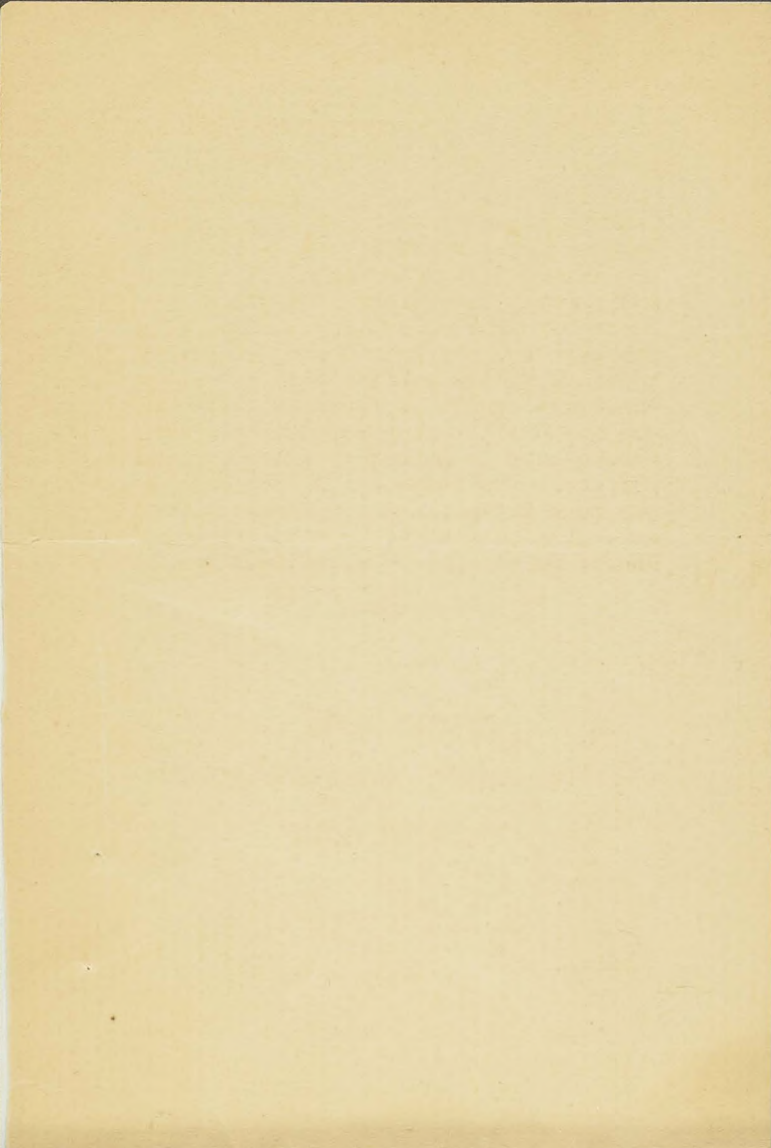


TURQUOISE MINES, MT. CHALCHUITL, NEW MEXICO.

Longitudinal Section.



5 Chambers like band.



NEW MEXICO,
MOUNT CHALCHUITL,
— TURQUOISE.

TURQUOISE.

It is unnecessary to speak of the present value of Turquoise ; suffice it to say that it is classed among the higher grades of gems, and, like diamonds sold by the karat. The market value of Turquoise depends upon its purity of color, the most valuable stones being of a sky-blue, or a blue blended slightly with green. Specimens of a fine blue are highly prized, while stones of a greenish cast, not combining a blending of blue, are comparatively valueless, though all grades of Turquoise are held in high esteem by the Indians of the southwest, who have, as far back as history extends, considered the Turquoise the most precious of all precious stones.

HISTORICAL.

By the ancient Mexicans, the Turquoise was regarded as of far more value than the emerald, as the latter gem has always been more plentiful than the Turquoise. Clavigero, in his history of Mexico, alluding to the minor kingdoms, republics and states tributary to the main kingdom, says: "Among other articles of tribute annually required from these nations, mention is made of ten small measures of fine Turquoises, and one *carga* (240 pounds) of ordinary Turquoises." In the second volume of Clavigero's history, the first present from Montezeuma to Charles V. of Spain, through Cortez, is referred to as follows: "The present to the Catholic king consisted of various works of gold, ten bales of most curious robes of feathers, and *four gems*, so highly valued by the Mexicans, that as Tehuitlile himself affirmed, *each* gem was worth a load of gold." According to the Mexican system of weights, 240 pounds constituted a load of gold. Estimating gold at \$20 per ounce, the value of each of these gems, according to Tehuitlile, (a governor and the ambassador of Montezeuma to Cortez), was over \$57,000. It is a well authenticated fact, that these gems referred to were Turquoises, and that they are *now* among the crown jewels of Spain. That

these four Turquoises came from the Los Cerrillos, there can be no doubt, as no other Turquoise mines were then or are now known to exist on the western continent, and but two others are known in the world, one of them being in Egypt, worked by a company of English capitalists, and the other in Persia, the Shah of which kingdom has a standing edict against the exportation of these precious jewels to foreign countries.

LOS CERRILLOS.

The Cerrillos, as they are termed, lie 22 miles southwest of the city of Sante Fe, New Mexico. The altitude of Mount Chalchuitl is about 7,000 feet above the sea level. The climate is most delightful ; the clear, exhilarating atmosphere seems to annihilate space ; twenty miles "over yonder" seems but an hour's walk to the vision, and far distant objects ask, like the mirage, a speedy investigation. Respiration is free and invigorating, and no sense of weariness steals over brain or body. One good lung in the Cerrillos is more vigorous, and a more solid foundation for continued life, than a weak pair anywhere else in the world. The dry, clear, rarified air gives rest and sleep, and natural recuperation. The main line of

the Atchison, Topeka & Santa Fe Railway runs within three miles of the Turquoise Mine. The Los Cerrillos cover an area of about thirty square miles, and the district is famous as containing some of the oldest and most extensively worked Spanish mines in America. The Cerrillos is fast attracting the general attention of capital, on account of its large and numerous lodes, its nearness to the finest coal-fields in the world, and the completion of the A., T. & S. F. R. R. to the very heart of the district.

MOUNT CHALCHUITL.

The Turquoise mine on which we are treating is embosomed in the largest of the pinion-covered Cerrillos (Mount Chalchuitl) from which the district takes its name, but is distinguished from its neighbors by two large excavations, one on the east and one on the west side of the mountain. This mine extends over twenty acres, and the property is held in fee. The title is guaranteed by Government patent, and no royalty is imposed. Mount Chalchuitl, is rich in historic interest. Among the presents sent by Montezuma to the King of Spain, none were so highly valued by that sovereign as the four Turquoises already men-

tioned. These stones are still held in superstitious reverence by the Indians, who regard any attempt on the part of Americans to appropriate them as a very sacrilegious proceeding, they deeming them sacred to their gods and Montezeuma. Until very recently, so little has been known of the existence of minerals in this district, that the land was a few years ago decided, by what the Government of the United States considered competent authority, to be non-mineral; but long-neglected New Mexico is now experiencing a "boom" which is turning the tide of capital and immigration, and proclaiming her the El Dorado of the world. In fact New Mexico is on the eve of a mining excitement which will far exceed the expectations of the most sanguine believer. The time has arrived when the Cerrillos Mines are to become an important source of wealth to New Mexico. The Turquoise Mine in question is the most conspicuous in the district. It was wrought by the Indians in the time of the Aztecs, for Turquoise and the precious metals, and subsequently worked by them for their Spanish conquerors. The opening up of this mine by Major D. C. Hyde for the first time in two hundred years, is destined to bring to light vast treasures of archæological lore, which may supply many missing links in the chain of history of a country rich in antiquity

and minerals. It was during the year 1679 that the west side of this immense mountain suddenly and unexpectedly caved in, burying the industrious Indian peons who were delving in the depths of the doomed mine. This calamity was the immediate cause of a general uprising on the part of the Indians, who had for a long time submitted patiently to the cruel yoke of their Spanish oppressors. The rebellion was precipitated by the attempt of the Spaniards to impress a larger number of Indians into their service, for the purpose of re-opening the mine. It is generally believed that this mine was worked hundreds of years previous to the discovery of America, as fragments of Aztec pottery, vases, drinking, eating and cooking utensils, stone hammers, wedges, mauls and idols are being brought to light from out the wide spread debris.

The turquoise has always been the favorite jewel of the western tribes, and was extensively in use at the time of the conquest of New Mexico by Coronado in 1541. The extent to which Mount Chalchuitl has been worked in past years, can be conjectured from the vast amount of debris lying around the present shaft workings, it averaging from 30 to 80 feet in depth, and covering no less than fifteen to twenty acres of ground.

DEVELOPMENTS.

After the lapse of two hundred years, and with the advent of 1880, the work of excavation and exploration has been resumed. Already many valuable mineral discoveries have been made. On both the east and west sides of the mountain, shafts have been sunk, which are to be connected at their base through the medium of a subterranean tunnel. The entrance to the main and mineral shafts on the west side is 194 feet below the spot where the Indians originally commenced mining.

In the course of development, several caves have been unearthed, extending from the levels of the long abandoned mine. One of the most curious groups has been named the "*Wonder Caves*." These caves are about 75 feet north-west of shaft No. 1 on the east side of the mountain, and appear to have been hermetically sealed by the Indian peons on their abandonment of the mine; the discovery of their existence was purely accidental. The Wonder Caves are about 25 feet from the surface, and 100 feet from the apex of the mountain, being about 30 by 25 feet, and from 6 to 8 feet in height above the debris. In these caves can be seen numerous small veins of Turquoise, from an eight of an

inch to two inches in thickness. Besides these veins, strips of gold-bearing quartz border the walls of the central cave. The bottom of these caves consists of loose rock and dirt about 20 feet deep, which, history affirms, was thrown in by the Indians when the mine was sealed. The roof of these caves is supported by pillars, from 10 to 20 feet thick. As the work of development progresses, it is expected that additional openings will be found through these pillars or walls, showing that this portion of the mountain was thoroughly honeycombed by the ancients, and the pillars left to support the roof. The prevailing belief is, that the entire east face of the mountain, as originally worked, is undermined by these caves or chambers, from 30 to 50 feet deep, running from the face, 30 feet wide and 25 feet high. The mineral veins which have been cut by the tunnels, run in a N. E. and S. W. direction, and dip to the west. Seventy-five feet southeast of these caves is shaft No. 1, now down 72 feet, the sinking having been done through large boulders, requiring much labor and blasting. From the bottom of this shaft, a westerly tunnel called Turquoise Tunnel, is in 18 feet; the Turquoise deposits and mineral strata being very rich. Shaft No. 2, which is on the west side of the mountain, and at the

base of the incline where the great "slide" occurred, was sunk and timbered to a depth of 73 feet through the same character of debris encountered in sinking shaft No. 1. At this depth bed rock was encountered, and after sinking 15 feet lower, an easterly tunnel was started which is to be run through the mountain and connected with the tunnel running towards it from the other shaft. The distance separating the shafts is 304 feet. It is known, almost to a certainty, that the tunnel from shaft No. 2 will soon cut rich mineral, as the present workings of the mines are on a direct line with other mines, adjoining north and south, which have developed wide and rich veins. Near the mouth of the west shaft has been discovered a cave similar in many respects to those forming the Wonder group. This cave was also sealed by the Indians on their abandonment of the mine, and is called the "*Mystery*."

The construction of the shafts is first-class in every respect, they being well timbered and 5 by 7 feet in the clear. It is the intention of the parties who have re-opened this wonderful mine, to prosecute, with unabated vigor, the work of development, until the whole mountain shall have been systematically opened up. The richness of results to be obtained can hardly be over estimated, as aside from the

much-prized Turquoise known to exist, Mount Chalchuitl is rich in gold and silver, which will pay a large profit for its extraction. From the surface to bed rock the ore assays from \$18 to \$142, gold largely predominating. The district is rich in *mineral veins*, they being composed of argentiferous galena and silver, at the rate of about 40 to 50 ounces per ton for the surface ores. Water has been struck at about 100 feet below the surface in two mines, and in both cases the ore has been found to be more compact and in better condition to handle, than that mined above water.

From all parts of the Los Cerrillos are coming the most flattering reports of new mineral discoveries. The developments which have been made within the last few months have attracted large numbers of fortune hunters, and every mountain range in the territory is being thoroughly prospected. Turquoise City, and the new city of Bonanza, are rapidly filling up, and two new smelters are being erected. Clear, pure water is at hand in sufficient volume for all purposes of irrigation. The crops, as a rule, are unusually large, yielding to the sower a good margin of profit. Experienced miners are certain of steady work at remunerative wages. Though the Cerrillos camp is yet in its infancy, the public can rest fully assured that it is a locality in which solid

Prospect failed

and substantial fortunes are to be secured. We believe the prediction can safely be ventured, that of all districts, the situation of the Cerrillos is exceptionally fine for mining. The waters of the Cienega and Santa Fe Creeks unite about three miles northwest of the Sierra Rosa, one of the Cerrillos groups, while the Galisteo River borders the south edge of the district. The water supply is ample for *all* purposes. Wood for fuel is easily obtained; lumber is sold at low rates; coal can be delivered at smelters at \$2 per ton—a very fine quality of anthracite. Bituminous coal is also plentiful.

GEOLOGICAL FORMATION.

The general formation of the district is porphyritic. The character of the ore varies in the different sections of the district. At the extreme south end is found quartz and heavy-spar, carrying galena, carbonate and molybdate of lead, sulphide of iron, green and blue carbonate of copper, and sulphide of copper, also silver chloride and traces of other minerals; further north, manganese appears in the combination, also zinc blende; as you approach the centre of the district, the zinc blende and copper gives out, and clean galena takes their place; an increase of quartz is met with towards the north, which runs high in gold.

The veins vary from a few inches in width to over 20 feet between walls. The crevice matter for the greater part, is rotten porphyry filled with gypsum, heavy spar, quartz and galena. Professor Silliman, of Yale College, speaking of the Cerrillos, says: "Very numerous silver-bearing veins intercept the irruptive rocks which form the Cerrillos district. The whole region is one of porphyrytic or irruptive rocks, which have been thrown up in a comparatively recent geologic period. The area of upheaval is six or eight miles one way, by four or five the other. Without an exception, all the rocks in this area belong to this irruptive class. Of all the numerous fissures, now being worked in New Mexico, none promise better or more permanent results than the Cerrillos.

The visitor or prospector is offered the advantage of five first-class railway lines from the Atlantic seaboard, the traveling accommodations furnished by all routes being first-class in every respect, and the time consumed en route being but four and one-half days.

That wonderful discoveries will soon be made in Mount Chalchuitl cannot be doubted. It being the only known Turquoise mine on the continent, the market cannot, to any great extent, become overrun. As the gem has always a market value, it will, ere long, be one of the recognized sources of wealth.

When the diamond will have become more common than it now is, the Turquoise will, on account of its rarity, be in demand, and command a high price.

For references, consult Astor Library—

See Clavigero, vol 2, pages 143, 207, 239.

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